

### Amendments to the Claims

The listing of claims below will replace all prior versions and listings of claims in the present application.

#### Claim Listing

1           1. (Cancelled)

1           2. (Cancelled)

1           3. (Currently Amended) A method for servicing transmit traffic in a node of a  
 2 network, the network including a plurality of nodes connected by first and second rings  
 3 formed by two or more transmission media, the method comprising:  
 4           receiving usage data from a downstream node, the usage data including transit  
 5           delay data associated with a plurality of downstream nodes;  
 6           receiving a packet for routing to the network;  
 7           determining a shortest path to a destination node including identifying one of the  
 8           first and second rings as being associated with the shortest path;  
 9           in response to identifying one of the first and second rings as being associated  
 10           with the shortest path to the destination node, determining if the identified  
 11           one of the first and second rings is more congested than the other of the  
 12           first and second rings using the transit delay data;  
 13           if so, routing the packet to the destination on the other ring irrespective of the  
 14           shortest path determination;  
 15           determining transit delay data for the node;  
 16           appending the transit delay data for the node to the received transit delay data  
 17           including:  
 18           ~~The method of claim 2, wherein the step of appending transit delay data~~  
 19           ~~includes:~~  
 20           identifying transit delay data associated with a node farthest away from  
 21           the node; and

22 dropping the transit delay data associated with the node farthest away  
 23 from the node prior to appending the node's transit delay data; and  
 24 forwarding the transit delay data including appended transit delay data to an  
 25 upstream node.

1 4. (Cancelled)

1 5. (Currently Amended) A method for servicing transmit traffic in a node of a  
 2 network, the network including a plurality of nodes connected by first and second rings  
 3 formed by two or more transmission media, the method comprising:  
 4 receiving usage data from a downstream node, the usage data including transit  
 5 delay data associated with a plurality of downstream nodes, wherein the  
 6 transit delay data received is of the form of a plurality of vectors each  
 7 reflecting the transit delay for their respective node, and wherein the ~~The~~  
 8 ~~method of claim 4, wherein the step of receiving~~ usage data includes  
 9 receiving transit delay data from 32 downstream nodes;  
 10 receiving a packet for routing to the network;  
 11 determining a shortest path to a destination node including identifying one of the  
 12 first and second rings as being associated with the shortest path;  
 13 in response to identifying one of the first and second rings as being associated  
 14 with the shortest path to the destination node, determining if the identified  
 15 one of the first and second rings is more congested than the other of the  
 16 first and second rings using the transit delay data; and  
 17 if so, routing the packet to the destination on the other ring irrespective of the  
 18 shortest path determination.

1 6. (Cancelled)

1           7. (Currently Amended) A method for servicing transmit traffic in a node of a  
2 network, the network including a plurality of nodes connected by first and second rings  
3 formed by two or more transmission media, the method comprising:  
4           receiving usage data from a downstream node, the usage data including transit  
5           delay data associated with a plurality of downstream nodes;  
6           receiving a packet for routing to the network;  
7           determining a shortest path to a destination node including identifying one of the  
8           first and second rings as being associated with the shortest path;  
9           ~~The method of claim 1, further comprising~~ determining an average transit delay  
10           for each the plurality of nodes, the average transit delay computed as the  
11           average of a previously determined average transit delay for a given node  
12           and newly received delay data associated with the given node;  
13           in response to identifying one of the first and second rings as being associated  
14           with the shortest path to the destination node, determining if the identified  
15           one of the first and second rings is more congested than the other of the  
16           first and second rings using the transit delay data; and  
17           if so, routing the packet to the destination on the other ring irrespective of the  
18           shortest path determination.

1           8. (Currently Amended) A method for servicing transmit traffic in a node of a  
2 network, the network including a plurality of nodes connected by first and second rings  
3 formed by two or more transmission media, the method comprising:  
4           receiving usage data from a downstream node, the usage data including transit  
5           delay data associated with a plurality of downstream nodes;  
6           receiving a packet for routing to the network;  
7           determining a shortest path to a destination node including identifying one of the  
8           first and second rings as being associated with the shortest path;  
9           determining a latency metric, the latency metric indicative of a delay between the  
10           node and the destination node;

11 in response to identifying one of the first and second rings as being associated  
 12 with the shortest path to the destination node, determining if the identified  
 13 one of the first and second rings is more congested than the other of the  
 14 first and second rings using the transit delay data and comparing the  
 15 latency metrics associated with the destination node for each ring; and  
 16 if so, routing the packet to the destination on the other ring irrespective of the  
 17 shortest path determination; The method of claim 6 wherein the latency  
 18 metric is computed as the mathematical average of a previously calculated  
 19 latency metric indicative of a delay for nodes between the node and the  
 20 given one of the plurality of downstream nodes and a newly calculated  
 21 latency metric for a same path based on the received transit delay data.

1 9. (Original) The method of claim 7 wherein the step of determining if the  
 2 identified one of the first and second rings is more congested than the other of the first  
 3 and second rings includes using the average transit delay data computed for each of the  
 4 plurality of downstream nodes.

1 10. (Currently Amended) ~~The method of claim 1 further comprising~~ A method  
 2 for servicing transmit traffic in a node of a network, the network including a plurality of  
 3 nodes connected by first and second rings formed by two or more transmission media, the  
 4 method comprising:  
 5 receiving usage data from a downstream node, the usage data including transit  
 6 delay data associated with a plurality of downstream nodes;  
 7 receiving a packet for routing to the network;  
 8 determining a shortest path to a destination node including identifying one of the  
 9 first and second rings as being associated with the shortest path;  
 10 in response to identifying one of the first and second rings as being associated  
 11 with the shortest path to the destination node, determining if the identified  
 12 one of the first and second rings is more congested than the other of the  
 13 first and second rings using the transit delay data;

14 if so, routing the packet to the destination on the other ring irrespective of the  
 15 shortest path determination;  
 16 recognizing when a packet may be part of a flow;  
 17 storing flow information for a flow when a routing decision is made that routes a  
 18 packet in a direction that is not consistent with the shortest path, the flow  
 19 information including a flow direction selected and a timer;  
 20 receiving another packet that is part of the flow;  
 21 determining if a timeout period has expired since a last packet in the flow was  
 22 sent based on the timer;  
 23 if the timeout period has not expired , then routing the another packet to the  
 24 destination based on the flow information including in a direction  
 25 determined by the flow direction; and  
 26 updating the timer to reflect a start of a new timeout period.

1 11. (Original) The method of claim 10 further comprising setting the timer to an  
 2 initial value that is the greater of the latency period between the node and the destination  
 3 node on both rings.

1 12. (Original) The method of claim 11 wherein the step of updating the timer  
 2 includes setting the timer to a new value that is the greater of a current latency period  
 3 between the node and the destination node on both rings.

1 13. (Currently Amended) A method for servicing transmit traffic in a node of a  
 2 network, the network including a plurality of nodes connected by first and second rings  
 3 formed by two or more transmission media, the method comprising:  
 4 receiving usage data from a downstream node, the usage data including transit  
 5 delay data associated with a plurality of downstream nodes;  
 6 receiving a packet for routing to the network;  
 7 determining a shortest path to a destination node including identifying one of the  
 8 first and second rings as being associated with the shortest path;  
 9 in response to identifying one of the first and second rings as being associated  
 10 with the shortest path to the destination node, determining if the identified

11 one of the first and second rings is more congested than the other of the  
 12 first and second rings using the transit delay data;  
 13 if so, routing the packet to the destination on the other ring irrespective of the  
 14 shortest path determination; and  
 15 ~~The method of claim 1 further comprising~~ determining if the destination node is  
 16 farther away from the node than a predefined number of hops, and if so,  
 17 routing the packet to the destination node based on the shortest path.

1 14. (Original) The method of claim 13 wherein the predefined number of hops is  
 2 32.

1 15. (Original) The method of claim 13 wherein a check is made to determine if a  
 2 break has been detected in the network on one of the first and second rings, and if so,  
 3 routing the packet to the destination node based on the shortest path.

1 16. (Cancelled)

1 17. (Currently Amended) A method for servicing transmit traffic in a node of a  
 2 network, the network including a plurality of nodes connected by first and second rings  
 3 formed by two or more transmission media, the method comprising:  
 4 receiving usage data from a downstream node, the usage data including transit  
 5 delay data associated with a plurality of downstream nodes;  
 6 receiving a packet for routing to the network;  
 7 determining a shortest path to a destination node including identifying one of the  
 8 first and second rings as being associated with the shortest path;  
 9 ~~The method of claim 6 further comprising~~ calculating ~~the~~ a latency metric as the  
 10 mathematical average of a previously calculated latency metric and an  
 11 average transit delay for all nodes between the node and the given  
 12 destination node.  
 13 storing in a table of destination nodes a hop count reflecting a hop count between  
 14 the node and the given destination node for each of the first and second  
 15 rings, the latency metric reflecting the congestion between the node and

16 the given destination node for each of the first and second ring, a static  
 17 ring selection based on the hop count, and a dynamic ring selection based  
 18 on the latency metrics reflective of the congestion in the first and second  
 19 rings between the node and the given destination node;  
 20 in response to identifying one of the first and second rings as being associated  
 21 with the shortest path to the destination node, determining if the identified  
 22 one of the first and second rings is more congested than the other of the  
 23 first and second rings using the transit delay data; and  
 24 if so, routing the packet to the destination on the other ring irrespective of the  
 25 shortest path determination.

1 18. (Original) The method of claim 17 wherein the average transit delay is  
 2 weighted based on the number of hops between the node and the given destination node.

1 19. (Currently Amended) The method of claim 17 wherein the transit delay data  
 2 is a measure of the amount of traffic in a low priority queue of a given downstream node.

1 20. (Cancelled)

1 21. (Cancelled)

1 22. (Currently Amended) A node in a network including a plurality of nodes  
 2 connected by first and second rings formed by two or more transmission media, the node  
 3 comprising:  
 4 fairness logic configured to  
 5 receive usage data from a downstream node including transit delay data  
 6 associated with a plurality of downstream nodes;  
 7 receive a packet from a host associated with the node for routing to the network;  
 8 determine a shortest path to a destination node including identifying one of the  
 9 first and second rings as being associated with the shortest path;  
 10 in response to identifying one of the first and second rings as being associated  
 11 with the shortest path to the destination node, determine if the identified

12                   one of the first and second rings is more congested than the other of the  
13                   first and second rings using the transit delay data; and  
14           if so, routing the packet to the destination on the other ring irrespective of the  
15                   shortest path determination; and  
16           fairness logic configured to track flows associated with a node including  
17                   remembering a last ring on which packets of the flow were forwarded to  
18                   the node and setting a timer to a value reflective of a longest amount of  
19                   time a packet will take to reach the node on either ring, receive a packet  
20                   that is part of a flow and route the packet to the node using the last ring if  
21                   the timer is unexpired.